PRODUCTIONVIEW™ HD-SDI

Camera Control Console with HD-SDI and SD-SDI Video Switching, Video Mixing and Automated Control Functionality

Figure 1: ProductionVIEW HD-SDI Camera Control Console

In our ongoing drive to redefine camera control, Vaddio introduces the ProductionVIEW HD-SDI multi-camera control system with an integrated HD/SD-SDI video seamless switcher. Designed to handle the most demanding live broadcast or staging events, its intuitive user interfaces allows a novice to shoot like a pro. ProductionVIEW HD-SDI integrates PTZ camera control and HD/SD-SDI live switching with effects into one easy-to-use control console.

Serial Digital Interface (SDI) is used in the broadcast industry because of it's capability to reproduce video at an uncompromising quality. Because SDI does not have digital copy protection embedded in the signal, it makes SDI much easier to integrate into projects that require the highest quality video available. Many PTZ cameras available on the market offer HD-SDI or SD-SDI cards, which connect to ProductionVIEW HD-SDI via a single coax cable for video. ProductionVIEW HD-SDI includes the 3 Gigahertz HD-SDI standard (SMPTE 424M) for 1080p video, as well as SMPTE 292M (HD-SDI at 720p or 1080i) and SMPTE 259M (SD-SDI).

The control surface gives users real-time knobs and buttons to control functions, as opposed to an endless programming menu. Because ProductionVIEW HD-SDI is a live broadcast production console, not a computer, the entire system produces only one frame of delay – a critical requirement for live production where image magnification is used. And because it is a seamless switcher, there is no need to run sync out to each camera, making installation and configuring easy.

The system's 6 x 2 switcher accepts any combination of input signals from HD-SDI and SD-SDI video (HD-SDI at 1080p, 1080i and 720p; SD-SDI) sources. All inputs feature both up/down conversion capabilities – the Program and Preview outputs have their own user selectable output resolutions. In addition, a external reference input is included to allow the Program and Preview outputs to be connected to a house sync generator for Gen Lock to another device.

A wide variety of transitions, including cuts, dissolves and wipes, can be achieved through user-selectable buttons built into the control surface. Furthermore, a Lower Screen Graphic (LSG) function allows users to overlay graphics onto the video output. Additional features include a large production-style Manual Focus wheel, an Iris control knob allowing for live manual adjustments, push control buttons for auto iris and focus of PTZ cameras. A Zoom Speed knob to control the speed of the electronic zoom lens is also included on the console.

Camera control elements include a broadcast-style 3-axis Hall Effect Joystick with twist handle zoom control, as well as separate Pan, Tilt and Speed control knobs. There are six discrete auto-sensing RS-232 camera control ports and 12 camera pre-sets per camera for storing frequent shots. PTZ cameras that are compatible with ProductionVIEW HD-SDI include Vaddio, Panasonic and Sony. In addition, video equipment with SDI output capability can be connected to any of the inputs. See page 5.

In addition, select from either tally outputs, or input triggers. The tally outputs allow the tally lights on compatible WallVIEW CCU PTZ cameras to be illuminated. Input triggers allow products such as our StepVIEW™ mats, AutoVIEW IR™ sensors, MicVIEW™ microphone switcher or TouchVIEW™ remotes to be installed with ProductionVIEW HD-SDI for an automated presenter controlled system.

ProductionVIEW HD-SDI is the ideal switcher and camera control system for a variety of applications, including houses of worship, local government, live event production and other situations where high definition video is required.

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Figure 2: ProductionVIEW HD-SDI with key features highlighted

KEY FEATURES

- **One (1) Frame of Delay:** A single frame of delay between input and output means image magnification (IMAG) for a live event won't be an issue.
- **Anything In, Anything Out:** ProductionVIEW HD-SDI will accept HD-SDI or SD-SDI signals and up or down-convert them. See the Technical Specifications for a complete listing of input and output resolutions supported.

1. **Focus and Iris Controls**: Focus and Iris can be adjusted from knobs on the control surface for real-time control of these critical functions.
2. **Dual Bus Switching:** ProductionVIEW HD-SDI can be configured as Program and Preview buses or as discrete video outputs. In addition, both buses can switch between inputs with the selected wipe, cut or dissolve.
3. **Lower Screen Graphics:** Insert "lower third" and other graphics, through our unique LSG function. A variety of sizes and transparency levels are available through buttons on the console.
4. **Picture-In-Picture:** Insert video in any corner of the output to add impact to your live production.
5. **Wipe, Fade, Cut, Transition Speed and Fade to Black:** Select a variety of wipe patterns, fade or cut from buttons on the control console. The Fade to Black (FTB) feature allows the Program output to fade to black. Transition Speed allows a wipe or fade transition to be adjusted up to 4 seconds.
6. **Take Button:** Pressing the Take button switches the input selected from Preview to Program.
7. **Joystick PTZ Camera and Speed Controls:** Sony, Canon and Vaddio PTZ cameras can be controlled via the 3-axis Hall-Effect joystick built into ProductionVIEW HD-SDI. Adjustable knobs for Pan, Tilt and Zoom speeds.
8. **Camera Selector and Presets:** Select a camera with the top bus, and program up to 12 preset shots per camera, using the camera preset control user interface.
9. **8-Line LCD Screen for Menu Access:** The internal menu allows the user to configure the resolution on the Preview and Program outputs, as well as other parameters built into the console.
10. **Manual and Automatic Modes:** In addition to a manual or "operator" mode there is an Automatic Camera Switching mode for PTZ camera presets assigned to Vaddio input triggers like the StepVIEW™ mats, AutoVIEW™ IR or TouchVIEW™ buttons.

WHAT'S INCLUDED

The Vaddio ProductionVIEW HD-SDI includes the following items:

- ProductionVIEW HD-SDI Video Console
- PowerRite™ 18 VDC Power Supply
- AC Cord Set
- Documentation

TECHNICAL FEATURES

Master RS-232 Control Port

The master control port allows connection to other control systems for complete access to the internal functions of the ProductionVIEW HD-SDI.

Compatible Cameras

The ProductionVIEW HD-SDI is capable of identifying by auto-sensing each camera attached. Control codes for the following cameras are built-in:

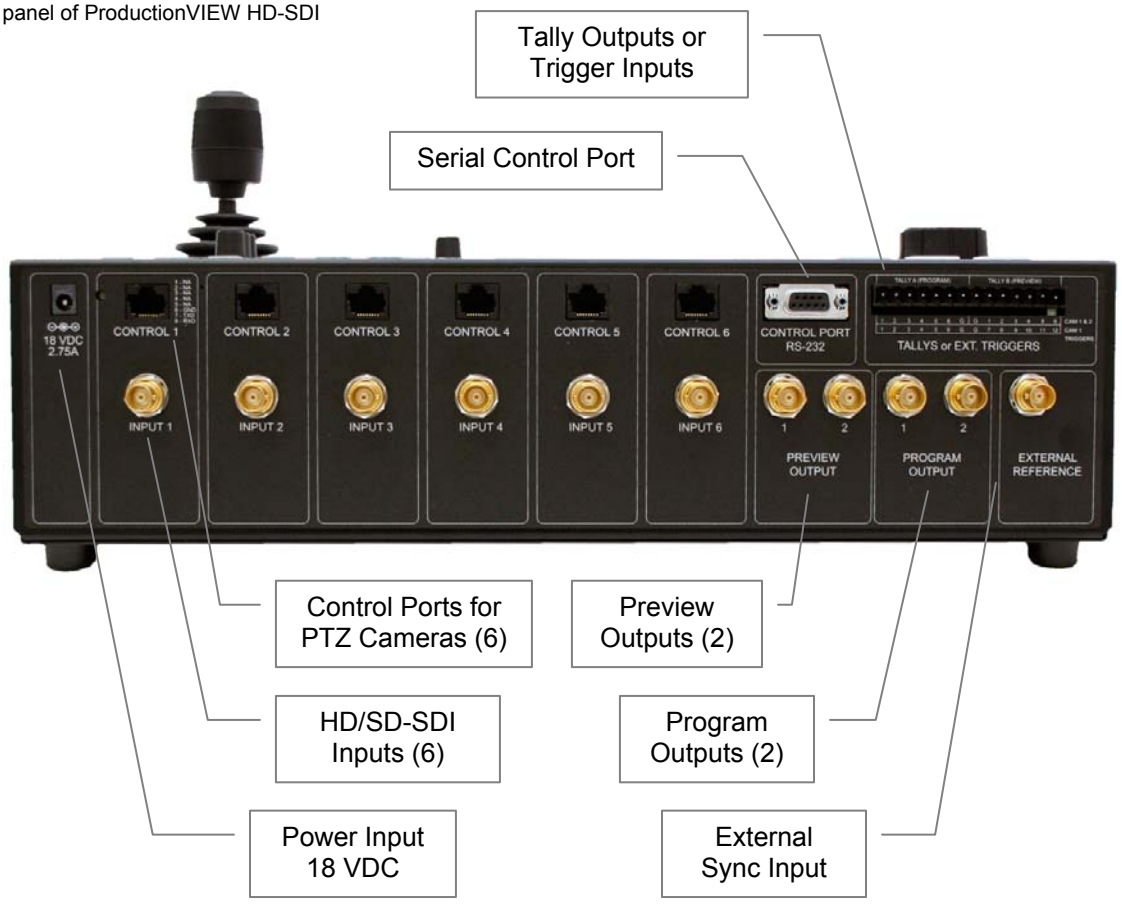
Vaddio WallVIEW™ Series Cameras
Panasonic AW-HE100 PTZ Camera
Sony EVI & BRC Series of Cameras

NOTE: Many PTZ cameras require optional SDI cards, or an analog video to SDI converter.

Vaddio Part Numbers

999-5650-000 ProductionVIEW HD-SDI - North America
999-5650-001 ProductionVIEW HD-SDI - International

Figure 3:
Back panel of ProductionVIEW HD-SDI



TECHNICAL SPECIFICATIONS

Video Resolutions & Distances* - Inputs (Cable EQ)	Video Resolutions - Outputs
HD Resolutions: 1080p – SMPTE 424M – Max. Length: 459.3 ft. (140m) 1080i – SMPTE 292M – Max. Length: 754.6 ft. (230m) 720p – SMPTE 292M – Max. Length: 754.6 ft. (230m)	HD Resolutions: 1080p – SMPTE 424M 1080i – SMPTE 292M 720p – SMPTE 292M
SD Resolutions: 480i – SMPTE 259M – Max. Length: 820.2 ft. (250m) 576i – SMPTE 259M – Max. Length: 820.2 ft. (250m)	SD Resolutions: 480i – SMPTE 259M 576i – SMPTE 259M
* Note: All cable lengths noted above are based on using Belden 1694A cable	

ProductionVIEW HD-SDI	
Part Numbers:	999-5650-000 (North America) 999-5650-001 (International)
Compatible PTZ Cameras:	Vaddio, Panasonic & Sony (cameras require optional SDI card)
Video Switcher:	6 Inputs x 2 Outputs
Video Transitions:	Cross Fade, 9 Wipe options and Straight Cuts, Fade to Black
Video Inputs:	Six (6) HD-SDI / SD-SDI inputs on BNC connectors
Preview Output:	Two (2) Preview outputs (BNC) – HD-SDI or SD-SDI
Program Output:	Two (2) Program outputs (BNC) – HD-SDI or SD-SDI
External Reference:	Input for sync from external device for Gen Lock of outputs
Camera Control Ports:	Six (6) RS-232 on RJ-45F
Control Interface:	One (1) RS-232 on DB-9
8-Line LCD Display (Menu):	8 – line backlit LCD display
Power Requirements:	PowerRite 18 VDC, 2.78 Amp
Control Inputs for Auto Mode (input 1 & 2):	Cameras 1 & 2 have 6 presets each or Camera 1 can have 12 (selectable – either Tally output function works, or Control Inputs)
Tally Output:	Tally outputs for each of the six video inputs (selectable – either Tally output function works, or Control Inputs)
Weight:	9.5 lbs. (4.32kg) – approximate weight
Dimensions (W x D xH):	16” (40.64cm) x 10” (25.4cm) x 4” (10.16cm)

SYSTEM CONNECTIVITY

Figure 4:
Basic connectivity of ProductionVIEW HD-SDI with a WallVIEW CCU connected (with optional HD-SDI card in camera) to an HD-SDI monitor.

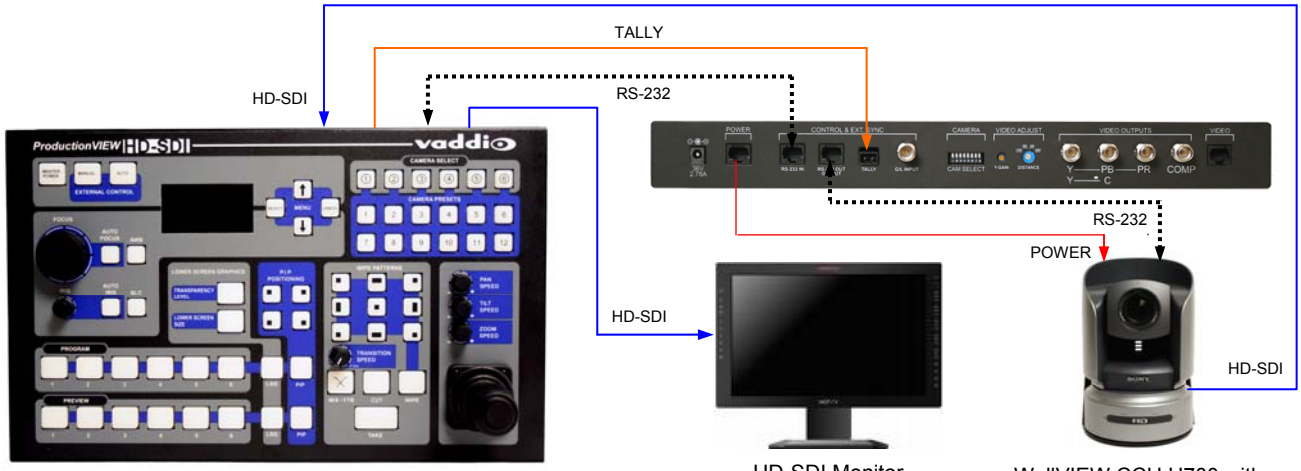
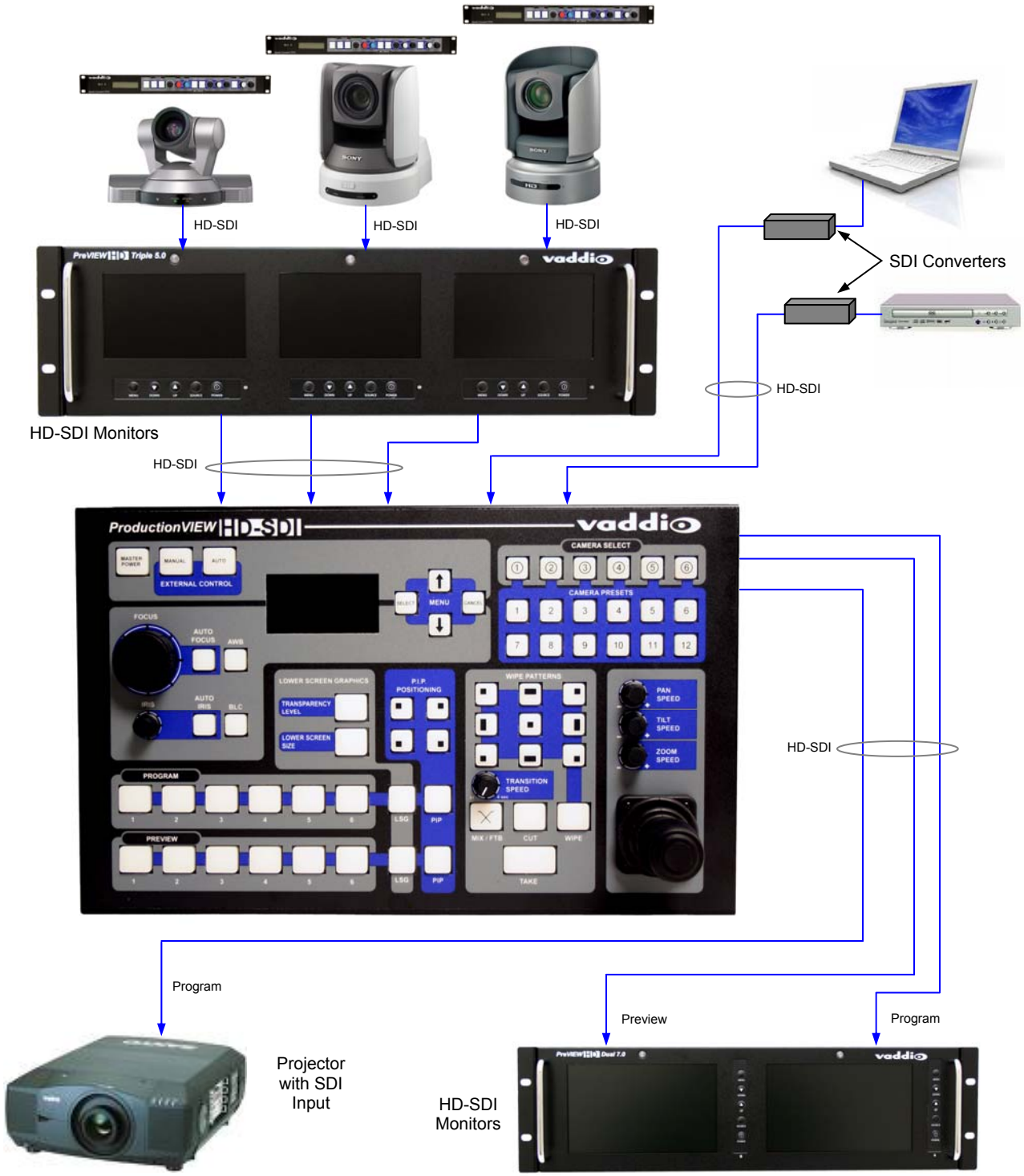


Figure 5:
Multiple WallVIEW CCU camera systems, laptop and DVD player connected to ProductionVIEW HD-SDI, with PreVIEW™ HD-SDI monitors, along with a laptop and DVD player using SDI converters. NOTE: PTZ Cameras below either have SDI accessory cards, or native SDI outputs



Figures 6, 7, 8 & 9:
Simulated pictures of Lower Screen Graphics capabilities

Lower Screen Graphic covering one-quarter of the screen, with a transparency level of 50%

Lower Screen Graphic covering one-third of the screen, with a transparency level of 50%

Lower Screen Graphic covering one-half of the screen, with a transparency level of 75%

Lower Screen Graphic covering the entire screen, with a transparency level of 50%